

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference p36846PO-539	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/JP2005/005296	International filing date (day/month/year) 16/03/2005	(Earliest) Priority Date (day/month/year) 18/03/2004
Applicant MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box II).

3. ☐ **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

NITRIDE BASED LED WITH A P-TYPE INJECTION REGION

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. 1

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

- b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/JP2005/005296

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H01L33/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	YAMADA M ET AL: "INGAN-BASED NEAR-ULTRAVIOLET AND BLUE-LIGHT-EMITTING DIODES WITH HIGH EXTERNAL QUANTUM EFFICIENCY USING A PATTERNED SAPPHIRE SUBSTRATE AND A MESH ELECTRODE" JAPANESE JOURNAL OF APPLIED PHYSICS, PUBLICATION OFFICE JAPANESE JOURNAL OF APPLIED PHYSICS. TOKYO, JP, vol. 42, no. 12B, PART 2, 15 December 2002 (2002-12-15), pages L1431-L1433, XP001162408 ISSN: 0021-4922	1,2, 8-10, 14-19
Y	the whole document	3,4, 11-13
Y	US 6 222 207 B1 (CARTER-COMAN CARRIE ET AL) 24 April 2001 (2001-04-24) abstract	3,4, 11-13



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- * & * document member of the same patent family

Date of the actual completion of the international search

12 July 2005

Date of mailing of the international search report

27/07/2005

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/JP2005/005296

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 316 785 B1 (NUNOUE SHINYA ET AL) 13 November 2001 (2001-11-13) abstract -----	9, 14
A	US 2004/031956 A1 (SAXLER ADAM WILLIAM) 19 February 2004 (2004-02-19) abstract -----	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/JP2005/005296

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6222207	B1	24-04-2001	DE 10016503 A1 28-12-2000 GB 2352088 A 17-01-2001 JP 2000349349 A 15-12-2000 TW 516161 B 01-01-2003 US 2001004534 A1 21-06-2001
US 6316785	B1	13-11-2001	JP 3592553 B2 24-11-2004 JP 2000124500 A 28-04-2000
US 2004031956	A1	19-02-2004	NONE